

at least one temperature sensing device, having an end, the end of the at least one temperature sensing device extending outward from the catheter after the catheter is inserted into the cavity,

wherein the end of the at least one temperature sensing device detects a temperature of a wall of the cavity irradiated by the antenna.

81. A radiating device for irradiating a cavity comprising:

a catheter;

an antenna, situated at an end portion of the catheter, for irradiating the cavity;

a first channel for providing a fluid to the cavity;

a second channel for receiving the fluid from the cavity; and

at least one temperature sensing device, having an end, the end of the at least one temperature sensing device extending outward from the catheter after the catheter is inserted into the cavity,

wherein the end of the at least one temperature sensing device detects a temperature of the cavity irradiated by the antenna.

82. The radiating device as claimed in claim 81, wherein the at least one temperature sensing device is released from the catheter after the catheter is inserted into the cavity.

83. A radiating device for irradiating an organ comprising:

a catheter;

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an antenna, situated at an end portion of the catheter, for irradiating the organ;  
a channel, within the catheter, for providing a fluid comprising a treatment  
substance to the organ; and

at least one temperature sensing device, having an end, the end of the at least one  
temperature sensing device extending outwards from the catheter after the catheter is  
inserted into the organ.

wherein the end of the at least one temperature sensing device contacts a wall of  
the organ irradiated by the antenna and wherein the fluid is provided to the organ  
simultaneously with the irradiation of the organ.

84. The radiating device according to claim 83, wherein the heating substance  
comprises a cytotoxic substance.

85. A radiating device for irradiating an organ comprising:  
a catheter;  
an antenna, situated at an end portion of the catheter, for irradiating the organ;  
a first channel, within the catheter, for providing a fluid comprising a cytotoxic  
substance to the organ;  
a second channel, within the catheter, for receiving the fluid from the cavity; and  
at least one temperature sensing device, having an end, the end of the at least one  
temperature sensing device extending outward from the catheter after the catheter is  
inserted into the organ.

wherein the end of the at least one temperature sensing device contacts a wall of the organ irradiated by the antenna and wherein the fluid is provided to the organ simultaneously with the irradiation of the organ.

86. A radiating device for irradiating an organ comprising:

a catheter;

an antenna, situated at an end portion of the catheter, for irradiating the organ;

a first channel, within the catheter, for providing a fluid comprising a cytotoxic

substance to the organ;

a second channel, within the catheter, for receiving the fluid from the cavity; and

at least one temperature sensing device, having an end, the end of the at least one

temperature sensing device extending outward after the catheter is inserted into the organ,

wherein the end of the at least one temperature sensing device detects a

temperature of the fluid and wherein the fluid is provided to the organ simultaneously

with the irradiation of the organ.

87. A method of performing hyperthermal therapy comprising the steps of:

inserting a catheter, including an antenna and at least one temperature sensing

device, into an organ;

irradiating the organ by generating radiation using the antenna;

providing a supply of a fluid through the catheter and into the organ;

extracting the fluid from the organ through the catheter; and

extending the at least one temperature sensing device detect a temperature of a wall of the organ.

88. A method of performing hyperthermal therapy comprising the steps of: inserting a catheter, including an antenna and at least one temperature sensing device, into a cavity;  
irradiating the cavity by generating radiation using the antenna;  
providing a supply of a fluid through the catheter and into the cavity;  
extracting the fluid from the cavity through the catheter; and  
extending the at least one temperature sensing device within the cavity; and  
detecting a temperature of the cavity.

89. The method as recited in claim 88, wherein  
the detecting step comprises detecting a temperature of the fluid.

90. A method of performing hyperthermal therapy comprising the steps of:  
inserting a catheter, including an antenna and at least one temperature sensing device, into an organ;  
irradiating the organ by generating radiation using the antenna;  
simultaneously with irradiating, providing a supply of a fluid comprising a cytotoxic substance through the catheter and into the organ; and  
extending the at least one temperature sensing device to contact a wall of the organ.